FIRST:					LAS	T :						
Discussion:	Monday	9	10	11	12	1	2	3	4	5		
1. (4 points) Is t	his claim true?	Give	a conc	rete co	ounter-	-exam	ple o	brie	efly ex	xplair	n why it's t	rue.
For any se	ets $A, B,$ and C	C, if A	$1 \times C \subseteq$	$B \times$	C, the	$\operatorname{en} A \subseteq$	= B.					
2. (4 points) Che	ck the (single) l	oox tl	nat best	t char	acteriz	es eac	ch iter	n.				
	3, then $x < 20$.		nat best tru		acteriz	es eac		n.	und	efinec	ı 🔲	

3. (7 points) In \mathbb{Z}_9 , find the value of $[5]^{41}$. You must show your work, keeping all numbers in your calculations small. You may not use a calculator. You must express your final answer as [n], where $0 \le n \le 8$.

CS 173, Spr Examlet 3,	•	NET	ID:							
FIRST:				LAST	Γ:					
Discussion:	Monday	9 10) 11	12	1	2 3	3 4	5		
1. (4 points) Is thi	s claim true? s A , B , and C					le or b	riefly e	xplain wh	y it's tru	e.
2. (4 points) Check If $x \in A \cap B$, then $x \in A$.	true f	ox that book or all set	s A and	В	es each		for son	ne sets A a	and B	
$\{1,2\}\cap\emptyset=$	Ø {Ø}		$\{(1, \emptyset) \}$	$(2,\emptyset),$	}]	$\{1, 2, \dots, n\}$			

3. (7 points) In \mathbb{Z}_{13} , find the value of $[9]^{19} \times [8]^4$. You must show your work, keeping all numbers in your calculations small. You may not use a calculator. You must express your final answer as [n], where $0 \le n \le 12$.

CS 173, Spr Examlet 3,	•	6 NET	ΓID:								
FIRST:				LAST	Γ:						
Discussion:	Monday	9 1	0 11	12	1	2	3	4	5		
1. (4 points) $A = \{$ $(A \cap B) \times C =$	ginger, clove,	nutmeg]	}	$B = \{gi$	inger,	vanil	la, pep	pper}		$C = \{8$	8}
$(A \cap C) \times B =$											
2. (4 points) Check	the (single) k	oox that	best char	racterize	es eacl	h iten	n.				
If $x \in A - B$, then $x \in B$.			ets A and			trı	ıe for	some	e sets A	A and B	
$\{1,2\} \cup \emptyset =$	Ø			{Ø]	}]	{1,	, 2}		
	{(1, 0	$(0), (2, \emptyset)$,	{1.	$2,\emptyset$			un	defined		

3. (7 points) In \mathbb{Z}_{11} , find the value of $[8]^{22}$. You must show your work, keeping all numbers in your calculations small. You may not use a calculator. You must express your final answer as [n], where $0 \le n \le 10$.

FIRST:					LAS	T :					
Discussion:	Monday	9	10	11	12	1	2	3	4	5	
1. (4 points) Is th	his claim true	? Give	a conc	crete o	counter-	-exam	ple o	r brie	efly ex	xplai	n why it's true
For any se	ets $A, B,$ and	C, if A	$A \subseteq B$	then 2	$A \cap C \subseteq$	$B \cap$	C.				
2. (4 points) Chec	ck the (single)	box t	hat bes	st cha	racteriz	es eac	ch ite	n.			
2. (4 points) Chec $ A - B = A $	- B true	e for a	hat bes	A	racteriz		ch iter		sets	Α [
2. (4 points) Chec $ A - B = A - \emptyset \in A$	- B true false	e for a	ll sets .	A A	racteriz	true		some		_	

3. (7 points) In \mathbb{Z}_{13} , find the value of $[7]^{18} + [7]^4$. You must show your work, keeping all numbers in your calculations small. You may not use a calculator. You must express your final answer as [n], where $0 \le n \le 12$.

CS 173, S _l Examlet 3		6 NET	ID:								
FIRST:				LAS	T:						
Discussion:	Monday	9 10) 11	12	1	2	3	4	5		
1. (4 points) $C = \{ \text{ (trump,} \\ (B \times A) - C = \} \}$	clinton), (sand			$B = \{c$	linton	, sanc	lers}				
$(A \cap C) \times B =$	=										
2. (4 points) Che	ck the (single)	box that	best cha	racteriz	es eac	h ite	m.				
If $x \in A \cup B$, then $x \in A$.		for all set		-		tr	ue fo	r som	ne sets	s A and I	В
$\emptyset \subseteq A$		for all set	=		tru€	e for s	some	sets	A _		

3. (7 points) In \mathbb{Z}_{11} , find the value of $[7]^{38}$. You must show your work, keeping all numbers in your calculations small. You may not use a calculator. You must express your final answer as [n], where $0 \le n \le 10$.